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CIRCUITS AND TECHNIQUES
FOR CHARGING CAPACITIVE LOADS

Abstract of the Invention

5 The present invention provides a capacitor
charging circuit that efficiently charges capacitive
loads. In particular, circuits and techniques are
preferably provided for using current from both the
primary and secondary windings of a transformer to
10 control ON-time and OFF-time of a switch. This
arrangement preferably yields an adaptable ON-time and
adaptable OFF-time switch that is capable of rapidly
charging capacitor loads ranging from as low as zero
volts to several hundred volts. The output voltage is
15 preferably measured indirectly to prevent unnecessary
power consumption. In addition, control circuitry can
be provided to conserve power by ceasing the delivery
of power to the capacitor load once the desired output
voltage is reached. Control circuitry preferably
20 operates an interrogation timer that periodically
activates the power delivery cycle to maintain the
capacitor output load in a constant state of readiness.